Errata Sheet

No. 4

Engineering and Design
MILITARY MUNITIONS RESPONSE ACTIONS

EM 1110-1-4009

15 June 2007

The following paragraphs in Chapter 7, Section 7-5a, sub-section (3), are changed as indicated (underlined text is new or revised).

(3) Probability Surveying.

(a) When the study objectives involve estimation or decision making, some form of probability surveying is required. Probability surveying is surveying where every member of the target population has a known probability of being included in the surveying. This does not preclude the use of an expert's knowledge of the project property in designing a probability-based surveying plan; however, valid statistical inferences require that the plan incorporate some form of randomization in selecting the surveying locations.

(b) Probability surveying can be of various types, but in some way they all make use of randomization, which allows valid probability statements to be made about the quality of estimates that are derived from the resultant data. The UXO Detection Application Version of Visual Sample Plan contains an option to assess the degree of confidence in UXO presence, which is designed to characterize a homogeneous study area for the presence of UXO. Visual Sample Plan was developed by the Pacific Northwest National Laboratory. USACE has developed a similar statistical sampling process, known as UXO Estimator, to determine the amount of geophysical investigation necessary to characterize a homogenous study area. Both Visual Sample Plan and UXO Estimator have components to estimate the percentage of sampling needed to meet project objectives, as well as components to analyze sampling results. The amount of sampling necessary within a sector is determined by the objectives of the project. Both tools assume: if MEC is present it is distributed randomly throughout the study area; there is a uniform probability of MEC occurrence over the entire study area; and all geophysical anomalies that could be interpreted as MEC are excavated. Neither tool is designed to statistically characterize activities that do not have random patterns, such as MEC intentionally

buried, purposely hidden contraband munitions, and similar activities. The USAESCH website should be checked for tools that may have come available.

(c) Delete

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(d) Delete.

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Table 7-1. Delete

(e) It should be remembered that mobilization/ demobilization and other fixed costs can be relatively high when compared to total geophysical investigation costs at small project properties. Therefore, at small project properties it is often more cost-effective to geophysically investigate the entire location, rather than use statistical surveying.

End Errata Sheet No. 4